

ACCESSORIES FOR DIAPHRAGM PUMPS

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Vacuum systems with small flanges require appropriate components for a consistent cross section of the connection from the system to the vacuum pump. Our small flange connections for diaphragm pumps, as well as elastic connection components, allow the integration of the pump into the vacuum distribution system.

Upgrading to small flange connection KF DN 16 for the following diaphragm pumps

ME 4 NT	662591
ME 8 NT, MZ 2 NT	662590
MD 1	637425

at inlet:



Upgrading to small flange connection KF DN 16 for the following diaphragm pumps

MZ 2 NT, MZ 2D NT	662590
MD 1	636553
ME 8 NT, MD 4 NT, MV 2 NT	662512
ME 16 NT, MD 12 NT, MV 10 NT	672101

at outlet:



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Flexible connections:
Metal vacuum tubing with small flanges KF DN 16

Length 250 mm	673306
Length 500 mm	673316
Length 750 mm	673326
Length 1000 mm	673336



Flexible connections:
PVC-hose with small flange KF DN 16

Length 500 mm	686010
Length 1000 mm	686020

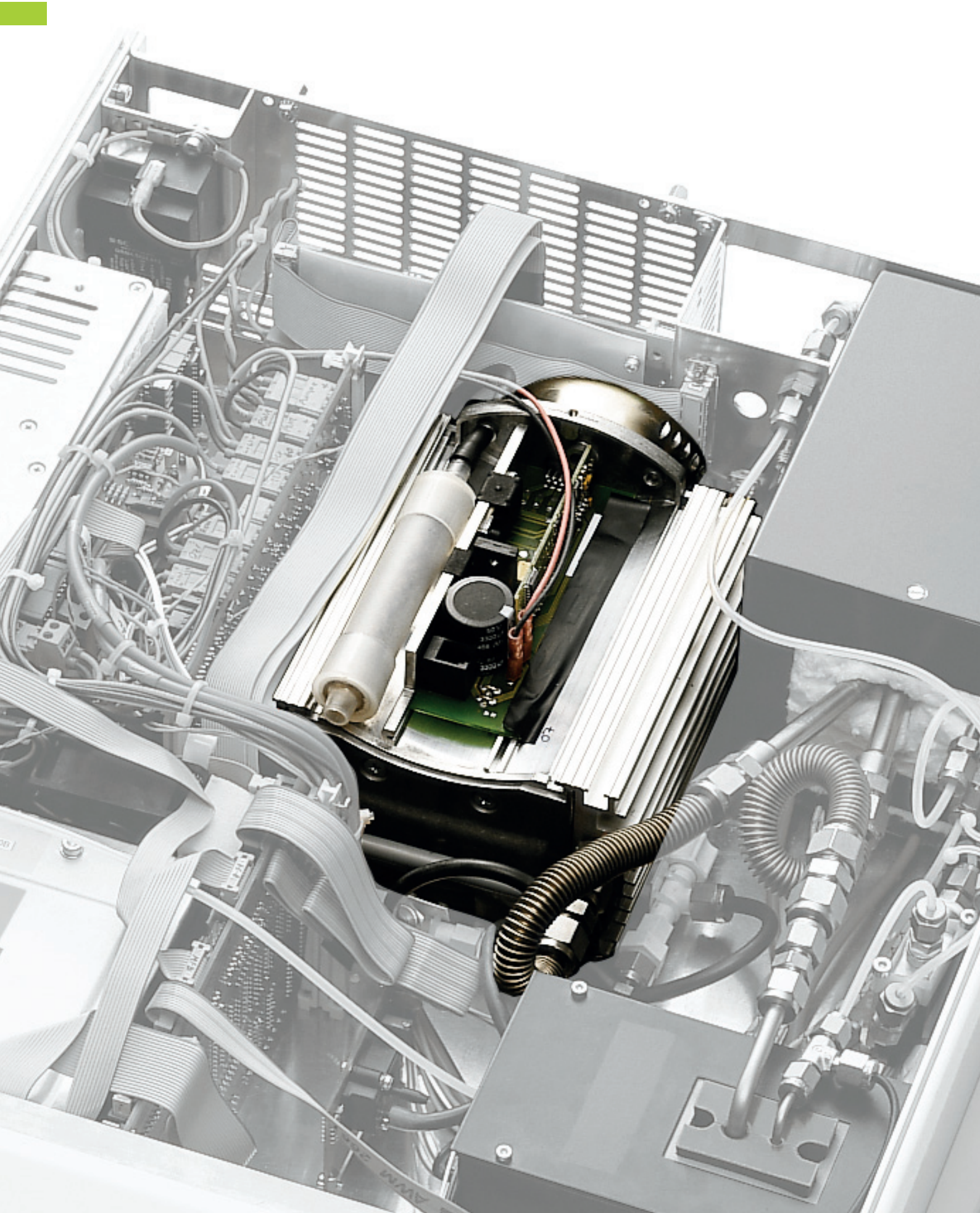


Additional accessories:

Additional flexible connections	Page 210
Small flange components	Page 204
Manually operated valves, e.g., VS 16 /	
Electrically operated (solenoid) valves	Page 192



OEM OR BUILT-IN PUMPS



DIAPHRAGM PUMPS WITH 24V DC DRIVE PARTICULARLY FOR INTEGRATION INTO OEM PRODUCTS

In OEM applications, we adapt our pumps to your installation requirements: Color, motors, electrical interfaces, fastening and a whole lot more can be adapted to your design requirements. VACUUBRAND VARIO-SP pumps with 24 V DC drive are designed for integration into your equipment control wiring. For decades, VACUUBRAND pumps have been selected by leading equipment and instrument manufacturers world-wide for their most critical designs.

VARIO-SP diaphragm pumps from VACUUBRAND combine our proven diaphragm and cylinder head technology with state-of-the-art drive and control technology. This system component (SP = SystemPump) is frequently used in equipment or systems where it is beneficial and necessary to regulate vacuum parameters. The electronically commutated (brushless) 24 V direct current drive is service-free and features unparalleled compact dimensions. The high-quality and flexible electronic drive system built into the pump makes it easy to integrate the vacuum pump into your overall system. Varying the motor speed makes maximum efficiency possible, including the option of controlling vacuum processes by changing the pump's volume flow rate. Motor speed control also enhances performance features such as pumping speed, ultimate vacuum, diaphragm and valve life, vibration and sound levels and energy consumption. The motor speed may be set internally (fixed speed) or controlled via an external digital or analog signal.



- ◆ possible variable speed 200-2400 min⁻¹, allowing a quicker pumping down with high speed
 - ◆ improved ultimate vacuum at low speed
 - ◆ significantly longer diaphragm and valve service life
 - ◆ extremely compact, flexible mounting positions feasible
 - ◆ much quieter and less vibration
 - ◆ less energy consumption, less heat dissipation
 - ◆ speed can be set manually or controlled externally by various analog and digital signals
 - ◆ supply with 24 V DC for worldwide use
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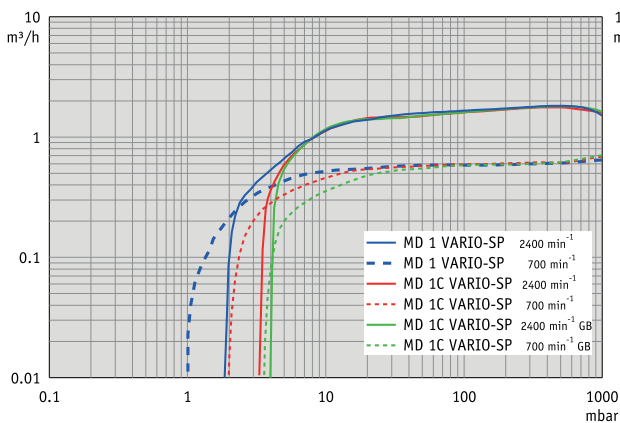
- ◆ contamination-free pumping and evacuation
- ◆ high flow rate even near ultimate vacuum
- ◆ VARIO®-SP = variable speed: Fast pump down at high motor speed, maintain vacuum with reduced motor speed
- ◆ very powerful and extremely compact; whisper quiet and ultra-low vibration, especially at low speed
- ◆ MD 1C VARIO-SP in chemistry design, with gas ballast valve and outstanding chemical resistance and superior vapor tolerance



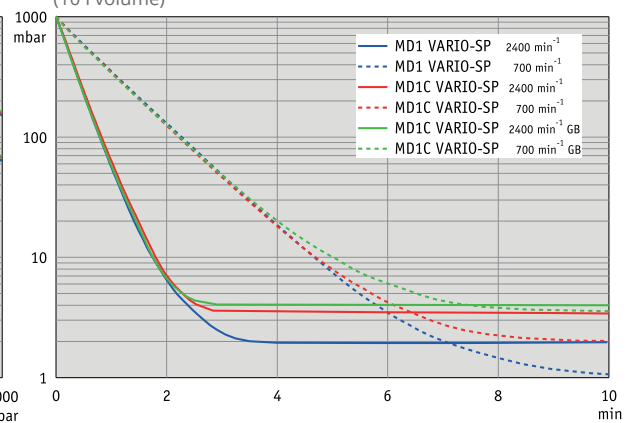
MD 1 VARIO-SP - MD 1C VARIO-SP

The three-stage MD 1 VARIO-SP diaphragm pump with its variable speed drive system attains significantly higher pumping speed and a better ultimate vacuum than the corresponding fixed speed pump. The brushless 24V DC motor (maintenance-free) enables easy integration of the pump into other equipment and operation independent of line voltage. The pump is particularly silent and vibration-free, and has an outstanding lifetime of its diaphragms and valves. For exceptional chemical resistance of the pump's internal flowpath it is also available as a chemistry design version (MD 1C VARIO-SP).

Pumping speed graph with/without gas ballast



Pump down graph with/without gas ballast (10 l volume)



OEM OR BUILT-IN PUMPS

TECHNICAL DATA**MD 1 VARIO-SP**

Number of heads / stages	4 / 3
Max. pumping speed (2400 min ⁻¹)	1.8 m ³ /h
Ultimate vacuum (abs.)	1 mbar (700 min ⁻¹)
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 6 mm
Outlet connection	Silencer / G1/8"
Rated motor power	0.064 kW
Max. current	7 A
Typ. current (<10 mbar, 1500 min ⁻¹)	1.5 A
Motor speed range	200 - 2400 min ⁻¹
Dimensions (L x W x H), approx.	223 x 143 x 163 mm
Weight, approx.	4.1 kg

TECHNICAL DATA**MD 1C VARIO-SP**

Number of heads / stages	4 / 3
Max. pumping speed (2400 min ⁻¹)	1.8 m ³ /h
Ultimate vacuum (abs.)	2 mbar (1500 min ⁻¹)
Ultim. vac. (abs.) with gas ballast	4 mbar (1500 min ⁻¹)
Max. back pressure (abs.)	1.1 bar
Inlet connection	Hose nozzle DN 8-10 mm
Outlet connection	Hose nozzle DN 8 mm
Rated motor power	0.064 kW
Max. current	7 A
Typ. current (<10 mbar, 1500 min ⁻¹)	1.5 A
Motor speed range	200 - 2400 min ⁻¹
Dimensions (L x W x H), approx.	235 x 143 x 175 mm
Weight, approx.	4.2 kg

ACCESSORIES MD 1 VARIO-SP

Rubber vacuum tubing DN 6 mm (686000)
Small flange KF DN 16 / G1/8" (637425)

ORDERING INFORMATION**MD 1 VARIO-SP**

24 V ~ DC	Open wires	696101
	Ex*	

ACCESSORIES MD 1C VARIO-SP

Rubber vacuum tubing DN 8 mm (686001)

ITEMS SUPPLIED

Pump completely mounted, ready for use, with 2 m cable without plug and with manual.

ORDERING INFORMATION**MD 1C VARIO-SP**

24 V ~ DC	Open wires	696110
	Ex*	